BEVERAGE ANTENNA TRANSFORMER UPDATE

VIC MISEK W1WCR 142 WASON ROAD HUDSON N.H. 03051

Recent experimental research has yielded some significant improvements in the efficiency of r-f transformers used in Beverage antenna construction. The MN-60 and BBR-7731 core materials have been replaced by new higher efficiency MN-8-CX material. Further we have discovered that additional efficiency improvement may be obtained by stacking two of our cores in each transformer. The procedure is simple. Just place one core on top of another and wind the transformer using the turns information in the BEVERAGE ANTENNA HANDBOOK. A greater than 0.4 dB decrease in insertion loss results over a very wide frequency range (500 kHz to 10 mHz). The result is a 0.4 dB improvement in reception sensitivity and noise figure. If end termination transformers are used the improvement will be 0.8 dB (two transformers in signal path). Below I have tabulated single and double core insertion loss versus frequency.

~~CORE PRICES, POSTPAID: 4 for $5, 8 for $8, 16 for $14~~

MHz	MN-8-CX	DOUBLE MN-8-CX	MN-60	DOUBLE MN-60
0.1	-8.10	-3.70	-2.93	-1.49
0.5	-1.03	-0.38	-0.76	-0.38
1.0	-0.57	-0.24	-0.75	-0.32
1.8	-0.51	-0.21	-0.63	-0.27
2.0	-0.49	-0.18	-0.60	-0.23
3.5	-0.32	-0.07	-0.49	-0.10
3.9	-0.27	-0.03	-0.43	-0.10
7.2	-0.40	-0.32	-0.81	-0.43
10.0	-1.29	-1.42	-2.68	-1.63
	DECIBELS			

FOR BEST PERFORMANCE

10mHz ----------Single MN-8-CX
Broadcast Band-----Double MN-8-CX
1.8 to 7.3mHz------Double MN-8-CX

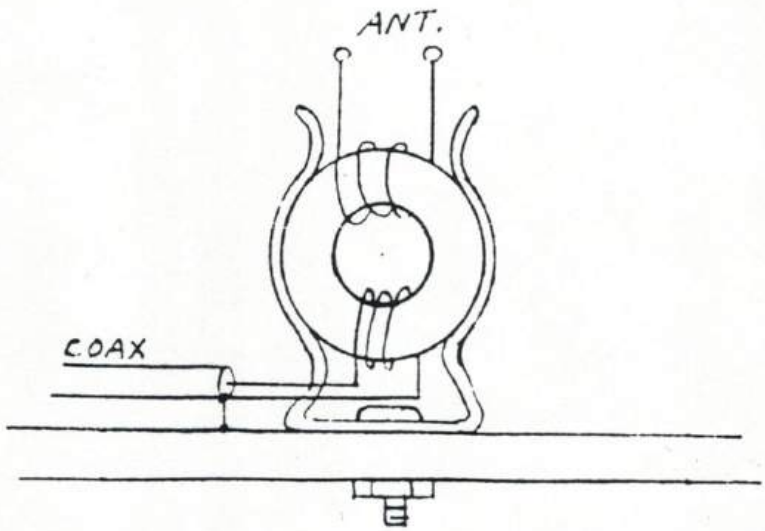
N.B.: ABOVE RESULTS APPLY ONLY TO CORES DIMENSIONED

OD=0.5in ID=0.312in T=0.25in

FARADAY SHIELD UPDATE

MISEK ANTENNA RESEARCH 142 WASON ROAD HUDSON N. H. 03051

The Faraday shield procedure shown on pp 59 has been a construction bottleneck because of the difficulty obtaining mini-coax. We have therefore researched the use of bronze fuse clips to provide Faraday shielding and a snappy mechanical mount for SWA transformers. The fuse clip mounts eliminate the need for mini-coax, provide a good ohmic ground for the cores (MN8CX is conductive), greatly reduce capacitive coupling between windings (Faraday shield effect) and can accomodate either single or double core transformers. The clip has a hole in its base to accept a mounting screw. The core is easier to wind because the window does not become stuffed with coax. Cores which are gronked by lightning can be unsnapped and replaced. The clip also bypasses lightning induced surges to ground rather than arcing into the output winding where it can raise hob with receiver front ends. Configuration shown in diagram below.



MN8CX CORES AND CLIPS

MN8CX CORES	BRONZE CLIPS	VN66AFD FET	ALL PRICES
4 @ $5.50	4 @ $3.50	$2.00 EACH	INCLUDE POSTAGE (USA ONLY)
8 @ $8.50	8 @ $6.00		
16 @ $14.50	16 @ $11.00		

PLEASE ADD $3.00 FOR POSTAGE AND HANDLING TO SWEDEN VIA SMALL PACKET AIRMAIL.
PLEASE WRITE FOR PRICES ON LARGER QUANTITIES.

Ceramic Magnetics, Inc.
a Division of National Magnetics Group

MN8CX

General Purpose Mn-Zn Ferrite for Linear, Pulse, and Power Applications

The combination of a narrow BH loop, moderately high resistivity, and a stable permeability make this ferrite an excellent choice for operation into the MHz range.

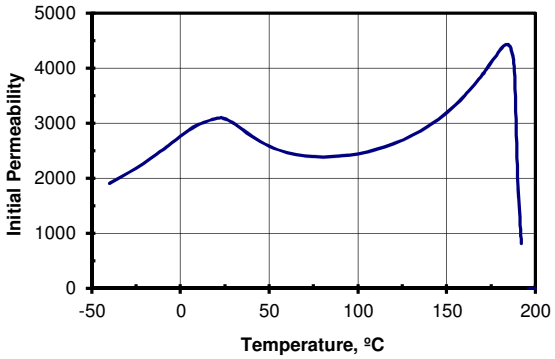
Typical Properties

Initial Permeability	**3100**
Maximum Permeability	**3700**
Saturation Flux Density	**4500 Gauss**
Remanent Flux Density	**850 Gauss**
Coercive Force	**0.20 Oersted**
Curie Temperature	**195ºC**
dc Volume Resistivity	**1200 ohm-cm**
Bulk Density	**4.7 g/cc**

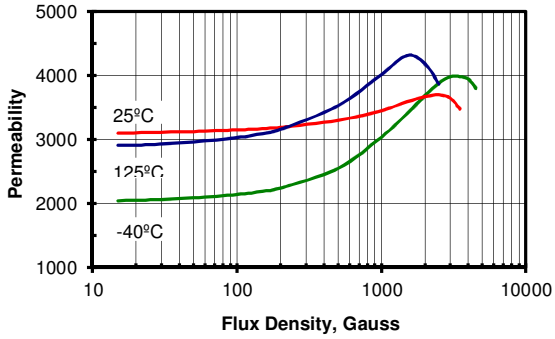
Unless otherwise specified, all tests were performed at 10 KHz, 22ºC

Bs tested at 20 Oersted • Br, Hc at 5 Oersted

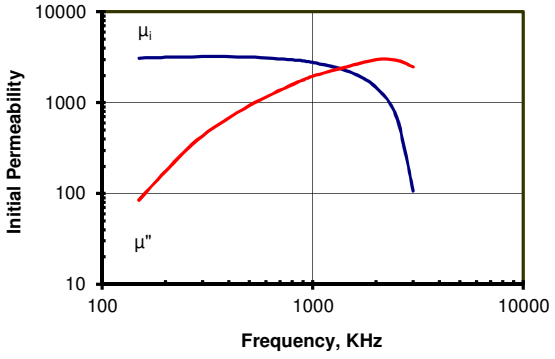
Initial Permeability vs. Temperature



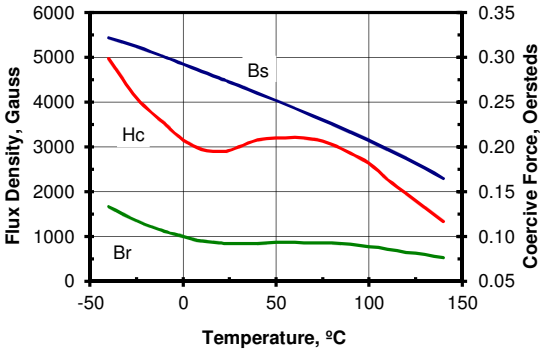
Permeability vs. Flux Density



Complex Permeability vs. Frequency



BH Loop Parameters vs. Temperature



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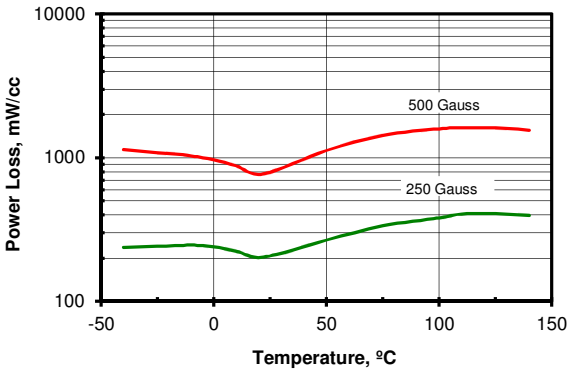
http://www.magneticsgroup.com

Rev. 9/19

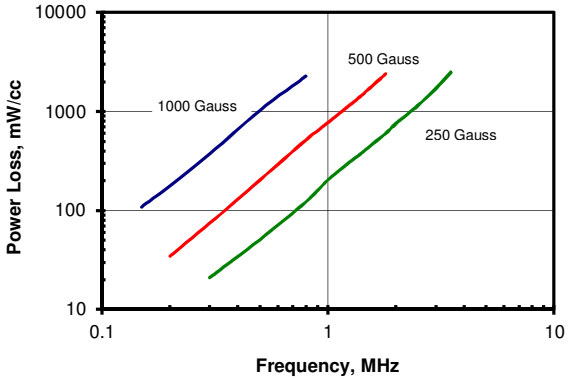
MN8CX

General Purpose Mn-Zn Ferrite for Linear, Pulse, and Power Applications

Power Loss vs. Temperature at 1 MHz



Power Loss vs. Frequency



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